

## **Testing the Efficacy of Mycotrol ES, *Beauveria bassiana*, on Tarnished Plant Bugs, *Lygus lineolaris*, in New York Strawberries 1997**

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### **Introduction**

In New York, there are two major pests of strawberries: the disease, *Botrytis* fruit rot, and the insect, tarnished plant bug (TPB), *Lygus lineolaris*. Results from recent IPM research projects lead us to believe that strawberries can be grown in NY with fewer fungicides and insecticides than are currently used. Broad spectrum fungicides use on strawberries can be reduced or eliminated by using cultural techniques and the biological control agent *Trichoderma harzianum*, to control *Botrytis* fruit rot. As the need for synthetic fungicides are reduced, the possibility of using fungal biocontrol agents to control insects such as tarnished plant bug can become a reality. One insect pathogen that shows promise against the TPB is *Beauveria bassiana*. This fungus acts as a contact insecticide. Spores attach to the insect, germinate and grow directly through the insect cuticle. The fungus grows rapidly within the insect, killing it in 3-7 days. Speed of kill depends on the number of spores contacting the insect, insect age, and ambient temperature. Particular strains of this fungus have proved to be effective against heteropteran pests such as whiteflies and aphids.

Results from tests conducted in 1995 at the New York State Agricultural Experiment Station (NYSAES) showed that the Mycotech formulation of *Beauveria bassiana* (Mycotrol WP,  $2 \times 10^{13}$  spores per pound) in combination with the wetting agent Silwet, applied either as two prophylactic sprays or as one spray at tarnished plant bug (TPB), *Lygus lineolaris*, threshold levels, reduced TPB injury in strawberries to commercially acceptable levels.

In 1996, two formulations of Mycotrol (WP and ES) were tested, but no effect on TPB populations was observed, primarily because individual plot sizes were smaller in 1996 than in 1995 and migration of TPB between treatments may have occurred. Because more strawberries were available for use at the NYSAES in 1997, plot sizes for this test were larger and the design was more similar to 1995 trials.

The objective of this study was to test the efficacy of two rates of Mycotrol ES (1 qt/A and 1 pt/A) applied at two timings (calendar and threshold) on TPB population in NY strawberries.

For a printed copy of the entire report, please contact the NYS IPM office at:

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